CLAIMS

What is claimed is:

1.   In a test apparatus, a method of testing a device, said method

5   comprising:

sending a first test pattern to a device under test (DUT), said first test

pattern part of a planned sequence of tests;

evaluating test results received from said DUT, said test results

comprising anomalous data indicative of a defect in said DUT; and

10   automatically selecting a second test pattern that is not part of said

planned sequence of tests, wherein said second test pattern is selected based

on a diagnosis of said anomalous data by said test apparatus.

2.   The method of Claim 1 wherein only said anomalous data is

15   saved and evaluated by said test apparatus.

3.   The method of Claim 1 wherein said test apparatus comprises a

plurality of pins for receiving signals from said DUT, wherein at least one of said

signals includes said test results.

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4.   The method of Claim 3 wherein said test results received on said

one of said pins are conditionally captured and stored in response to a signal

received on another of said pins.

25   5.   The method of Claim 3 wherein said test results are conditionally

captured and stored in response to said test apparatus recognizing a begin

sequence of one or more bits received from said DUT.

6.   The method of Claim 5 wherein capture and storage of said test results are ended in response to said test apparatus recognizing an end sequence of one or more bits received from said DUT.

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7.   The method of Claim 1 wherein said second test pattern is selected from a plurality of precomputed test patterns.

8.   The method of Claim 1 wherein said diagnosis is performed by

10   recognizing a pattern in said anomalous data, wherein said second test pattern is selected according to said pattern.

9.   An automated test system comprising:

a test controller; and

15   a test instrument coupled to said test controller, wherein said test instrument sends a first test pattern to a device under test (DUT), said first test pattern part of a planned sequence of tests, evaluates test results received from said DUT, said test results comprising anomalous data indicative of a defect in said DUT, and automatically selects a second test pattern that is not part of said

20   planned sequence of tests, wherein said second test pattern is selected based on a diagnosis of said anomalous data by said test instrument.

10.   The automated test system of Claim 9 wherein only said anomalous data is saved and evaluated by said test instrument.

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11.   The automated test system of Claim 9 wherein said test instrument comprises a plurality of pins for receiving signals from said DUT, wherein at least one of said signals includes said test results.

5   12.   The automated test system of Claim 9 wherein said test results received on said one of said pins are conditionally captured and stored in response to a signal received on another of said pins.

13.   The automated test system of Claim 9 wherein said test results are

10   conditionally captured and stored in response to said test instrument recognizing a begin sequence of one or more bits received from said DUT.

14.   The automated test system of Claim 13 wherein capture and storage of said test results are ended in response to said test instrument

15   recognizing an end sequence of one or more bits received from said DUT.

15.   The automated test system of Claim 9 wherein said second test pattern is selected from a plurality of precomputed test patterns.

20   16.   The automated test system of Claim 9 wherein said diagnosis is performed by recognizing a pattern in said anomalous data, wherein said second test pattern is selected according to said pattern.

17.   An automated test system comprising:

25   means for sending a first test pattern to a device under test (DUT), said first test pattern part of a planned sequence of tests;

means for evaluating test results received from said DUT, said test results

comprising anomalous data indicative of a defect in said DUT; and

means for automatically selecting a second test pattern that is not part of

said planned sequence of tests, wherein said second test pattern is selected

5   based on a diagnosis of said anomalous data by said test apparatus.

18.   The automated test system of Claim 17 wherein only said

anomalous data is saved and evaluated.

10   19.   The automated test system of Claim 17 wherein said test results

are conditionally captured and stored in response to a signal received from said

DUT.

20.   The automated test system of Claim 17 wherein said test results

15   are conditionally captured and stored in response to a begin sequence of one

or more bits received from said DUT.

21.   The automated test system of Claim 20 wherein capture and

storage of said test results are ended in response to an end sequence of one or

20   more bits received from said DUT.

22.   The automated test system of Claim 17 wherein said second test

pattern is selected from a plurality of precomputed test patterns.

25   23.   The automated test system of Claim 17 wherein said diagnosis is

performed by recognizing a pattern in said anomalous data, wherein said

second test pattern is selected according to said pattern.